DOCUMENT RESUME

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IDENTIFIERS	*Oregon

ABSTRACT

This document is designed to help school personnel analyze their current curriculum for grades 6, 7, and 8 in terms of the Mathematics Common Curriculum for Oregon. The common curriculum goals are organized into nine content strands: (1) number and numeration; (2) appropriate computational skills; (3) problem solving; (4) geometry and visualization skills; (5) measurement; (6) statistics and probability; (7) mathematical relationships; (8) oral and written communication skills; and (9) appropriate study skills. Each strand contains knowledge and skills to be developed with expected outcomes for students to achieve by the end of grade 8. Columns are provided to indicate the extent to which the expected outcomes are emphasized by (1) amount of instruction, (2) inclusion in course goals, (3) inclusion in instructional materials, and (4) coverage in staff training. Results of the analyses can be compiled and used to guide staff training and selection or development of materials. (RH)

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ED288708

MATHEMATICS

Common Curriculum Goals

Curriculum Mapping

End of Eighth Grade

Oregon Department of Education
700 Pringle Parkway SE
Salem, Oregon 97310-0290

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SE 048 730

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USE OF THIS DOCUMENT

This document is provided for your convenience. Curriculum mapping is not a required activity. However, you will find that information obtained in this process will be helpful in analyzing your current curriculum in terms of the Mathematics Common Curriculum Goals and planning for updating curriculum.

INSTRUCTIONS

Use of this document to gather information

1. Decide on questions to be asked. Some questions are provided in the column headings. You may wish to add or delete column headings.

2. Items marked with an asterisk (*) are unique to the Mathematics Common Curriculum Goals or indicate that a change has occurred in the wording of an Essential Learning Skill. Schools that have mapped for Essential Learning Skills may wish to survey only the asterisked items.

3. Determine who will respond to the survey and under what conditions.

4. Reproduce the document and provide staff orientation and training.

5. Clarify intent of column headings and numeric scores.

   Amount of Instruction:

   Considerations here include amount of time and quality of instruction and feedback provided to students on the skill. Practice or application should only be considered if it is accompanied by instruction.

   Included in Course Goals:

   To be considered here is the degree to which the current local course goals reflect a particular common curriculum goal.

   Adequate Materials:

   Considerations here include the quality and the quantity of instruction and practice provided in the text or supplementary material. Any concerns about sufficient materials for each student should be reflected in the comment section rather than in the score.

Ratings: 0 = absence or a complete lack of the items specified in the column heading.
1 = a low or inadequate amount or quality of the specified item.
2 = a moderate or reasonably satisfactory amount or quality of the specified item.
3 = a high or substantial amount or quality of the specified item.

Adequate Teacher Training:

Considerations here include teacher preservice, inservice, college courses, workshops, personal reading and experiences which provide the teacher with the necessary skills to teach toward the specified goals.

Blank Column:

This column is provided for questions that you would like to add.

Comments:

Encourage teachers to use this section to clarify their ratings or express related concerns.

Use of this document to tally results

Results can be tallied in the space provided above numeric scores on an unmarked form. Consideration should be given to tallying by grade level or course title.

Use of this document to analyze results

An additional unmarked document can be used to display results across grades or courses for analysis and decision-making. Data could be displayed in a numeric average, as a compilation of all ratings, with a word descriptor (such as low, medium, high), or symbolically, using color coding.

SCHOOL: _____

ASSIGNMENT: 6 ___ 8 ___ 7 ___ Course _____ End of Eighth Grade	Amount of Instruction	Included in Course Goals	Adequate Materials: Basal Text	Adequate Materials: Supplementary	Adequate Teacher Training		COMMENTS
1.0 Number and Numeration. Students demonstrate an understanding of number and numeration concepts and use these understandings to interpret and solve problems. STUDENTS WILL BE ABLE TO:							
1.1 READ, WRITE, ORDER, COMPARE AND USE NUMBERS (ELS 1.4)*							
a Read and write numbers, including decimals, commonly used fractions and percents	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
b Express large numbers in expanded exponential notation	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
c Order signed numbers and commonly used fractions, decimals and percents	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
d Express large whole numbers in scientific notation	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
1.2 USE CONCRETE AND PICTORIAL MODELS TO DEMONSTRATE NUMBER AND NUMERATION CONCEPTS (ELS 1.4)							
a Order, compare and model commonly used fractions, decimals, percents and signed numbers, and give examples of positive and negative quantities (e.g., temperature, football, bank balances, altitude)	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	

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End of Eighth Grade	Amount of Instruction	Included in Course Goals	Adequate Materials: Basal Text	Adequate Materials: Supplementary	Adequate Teacher Training		COMMENTS
b Identify the number of ones, tens, hundreds, thousands, ten-thousands, and hundred-thousands in numbers less than one million, and tenths, hundredths, and thousandths, in numbers less than one	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
1.3 RECOGNIZE AND USE NUMBER PROPERTY CONCEPTS							
a Use and apply the properties of addition, subtraction, multiplication, and division with whole numbers and positive rational numbers, and demonstrate the properties of one and zero (including nondivision by zero), and the closure property	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
b Recognize and use mathematical terms	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
c Explain the reasons for the rules for order of operations and use of grouping symbols	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	

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End of Eighth Grade	Amount of Instruction	Included in Course Goals	Adequate Materials: Basal Text	Adequate Materials: Supplementary	Adequate Teacher Training		COMMENTS
2.0 Appropriate Computational Skills. Students select and use the most appropriate form of computation - manipulative, mental, paper/pencil, estimation or calculator usage to solve problems and check all computations for reasonability.							
STUDENTS WILL BE ABLE TO:							
2.1 USE MENTAL, PAPER AND PENCIL, ESTIMATION AND CALCULATOR COMPUTATIONS TO SOLVE APPROPRIATE PROBLEMS (ELS 1.4 and 1.7)							
a Use mental, manual, calculator and computer processes to perform mathematical operations	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
b Select the most appropriate method(s) of computation (mental, paper/pencil, calculator) to use in a given situation	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
c Use rounding and other techniques useful in mental computation to estimate and make approximate whole number, fraction and decimal and percent computations	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
e Mentally +, -, x, ÷ whole numbers and decimals by powers of ten and multiples of ten	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	

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End of Eighth Grade	Amount of Instruction	Included in Course Goals	Adequate Materials: Basal Text	Adequate Materials: Supplementary	Adequate Teacher Training		COMMENTS
f Recognize that the same arithmetic algorithms used with 1-3 digit numbers can be extended to multidigit computations	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
g Compute using measures	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
h Use calculator and/or computer to solve appropriate problems	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
j Use estimation and other skills to check answers for reasonableness	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
2.2 DEMONSTRATE COMPUTATIONAL ALGORITHMS WITH CONCRETE MATERIALS OR REAL-WORLD EXAMPLES							
a Demonstrate an understanding of the various meanings of multiplication and division (including remainders) of whole numbers by drawings or by referencing "real world" applications	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
b Model the various meanings of addition and subtraction involving signed numbers, and add, subtract and multiply signed numbers in situations meaningful to students	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
c Use concrete materials or "real world" examples to demonstrate operations with decimals and percents	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	

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End of Eighth Grade	Amount of Instruction	Included in Course Goals	Adequate Materials: Basal Text	Adequate Materials: Supplementary	Adequate Teacher Training		COMMENTS
[d] Use concrete materials or "real world" examples to demonstrate operations with commonly used fractions	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	

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End of Eighth Grade	Amount of Instruction	Included in Course Goals	Adequate Materials: Basal Text	Adequate Materials: Supplementary	Adequate Teacher Training		COMMENTS
3.0 Problem Solving. Students use problem-solving skills and strategies to solve routine and nonroutine problems.							
STUDENTS WILL BE ABLE TO:							
3.1 IDENTIFY PROBLEMS AND APPROACH THEIR SOLUTION IN AN ORGANIZED MANNER (ELS 6.3)							
[a] Define a problem, choose information to solve the problem and supply additional information, if needed	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
[b] Use a combination of questioning strategies and observation to analyze problems	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
[c] Use data from several sources to develop a problem-solving plan	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
[d] Solve problems using appropriate strategies such as guessing and checking, making a systematic list, looking for patterns, making or drawing a model, eliminating possible answers or solving a simpler problem	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
[e] Identify alternative solutions to problems	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	

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End of Eighth Grade	Amount of Instruction	Included in Course Goals	Adequate Materials: Basal Text	Adequate Materials: Supplementary	Adequate Teacher Training		COMMENTS
f Choose and apply mental, manual, calculator, and computer processes to problem-solving strategy(ies)	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
g Select and apply appropriate problem-solving tools, including computer software	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
h Describe both successful and unsuccessful solution strategies	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
i Engage in cooperative problem solving and compare alternative solution strategies	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
j Use summative (final) data to determine if the problem-solving approach was successful, and if not, how it should be modified	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
3.2 CREATE AND SOLVE WORD PROBLEMS APPROPRIATE TO THE GRADE LEVEL (ELS 6.3)							
a Recognize appropriate operation(s) for solutions of word problems and recognize information necessary to solve word problems, and supply reasonable additional information, if needed	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	

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End of Eighth Grade	Amount of Instruction	Included in Course Goals	Adequate Materials: Basal Text	Adequate Materials: Supplementary	Adequate Teacher Training		COMMENTS
b Pose and solve multiple-step word problems	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
c Solve and create word problems to match exercises involving whole numbers, fractions, decimals, and percent	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
d Identify, invent or create problems that can be solved by using ratio and proportion; and use proportion to solve problems	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
e Solve problems with more than one possible solution and recognize problems which cannot be solved because they contain too little information	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
f Translate "real-world" problems into mathematical statements, and mathematical problems and answers back into "real-world" context	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	

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End of Eighth Grade	Amount of Instruction	Included in Course Goals	Adequate Materials: Basal Text	Adequate Materials: Supplementary	Adequate Teacher Training		COMMENTS
4.0 Geometry and Visualization Skills. Students recognize geometric patterns and relationships and apply them in solving problems and making predictions.							
STUDENTS WILL BE ABLE TO:							
4.1 RECOGNIZE AND USE GEOMETRIC PATTERNS, RELATIONSHIPS AND PRINCIPLES TO DESCRIBE AND CLASSIFY (ELS 1.5)							
a Identify distinguishing properties of common geometric figures including side or angle measurements	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
b Sketch or build common geometric solids and two-dimensional figures	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
c Identify, sketch or model parallel and intersecting lines, right angles and lines of symmetry occurring in the environment	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
d Use drawings, models or computers to demonstrate geometric patterns and relationships such as similarity and congruence	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
e Locate and give coordinates of points on graph paper, maps, globes and other charts	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	

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f Demonstrate by various means the relationships among radius, diameter and circumference of a circle, and the common right triangle relationships	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
4.2 MAKE AND USE GEOMETRIC DRAWINGS AND MODELS, INCLUDING TESSELLATIONS							
a Explain why a flat surface can be completely covered without overlap, by congruent triangles, and rectangles, or squares	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
b Use protractor, compass, ruler, computer, and other instruments to make common geometric constructions	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
c Draw the net (2 dimentional pattern) for common geometric solids (e.g., cube, rectangular prism, cylinder)	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	

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4.3 UNDERSTAND AND USE PERIMETER, AREA AND VOLUME CONCEPTS							
a Demonstrate, other than by using a formula, ways of finding perimeter and area of general triangles, circles, parallelograms, and trapezoids	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
b Estimate and determine perimeter, area and volume of common geometric figures	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
c Use a formula for finding perimeter, area, and volume of rectangular solids	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
d Calculate surface areas of regularly shaped solids (e.g., cubes, cylinders, rectangular boxes)	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	

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5.0 Measurement. Students measure quantities and use measurements to keep records, solve problems and make predictions. STUDENTS WILL BE ABLE TO:							
5.1 POSE AND SOLVE PROBLEMS THAT INVOLVE TIME AND MONEY (ELS 1.7)							
[c] Create and solve problems which involve time or money including consumer and wage earner situations of interest to students	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
5.2 SELECT AND USE APPROPRIATE INSTRUMENTS AND UNITS TO ESTIMATE AND MEASURE LENGTH-WEIGHT; VOLUME AND CAPACITY; AND TEMPERATURE (ELS 1.7)							
[a] Determine the most appropriate unit and instrument for a measurement task	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
[b] Estimate and directly measure distances, angles and other quantities, and indicate in some way the precision of the measurement using metric and English (U.S. Customary)	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	

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c Measure by some direct means the area of a polygon or some 2-D region with curves as boundaries, and the volume of 3-D objects	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
e Give examples of the importance of congruence and precision in society	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
f Explain why all measurements are approximations and why results of all computations with measurements are approximations	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
g Estimate, and determine the weight (mass) of common objects using metric and English (U.S. Customary) units	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
h Estimate, read and record temperature in C° and F° in real and given situations	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
5.3 DETERMINE INDIRECT MEASUREMENTS							
a Make scale drawings and determine actual distances from scale drawings, blueprints, maps, and globes	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
b Find and record measurements using proportions and formulas	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	

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6.0 Statistics and Probability. Students collect, organize, record and interpret data and predict probable outcomes based on collected data.							
STUDENTS WILL BE ABLE TO:							
6.1 RECOGNIZE AND USE MATHEMATICAL PATTERNS, RELATIONSHIPS AND PRINCIPLES TO QUANTIFY PROBLEMS OR MAKE PREDICTIONS (ELS 1.6)							
[a] Determine the number of possible events and the probability of an outcome in a probability experiment	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
[b] Identify and demonstrate situations in which probability or chance of an event occurring is likely, unlikely, equally likely; and whether a game is "fair"	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
[c] Understand the meaning of probabilities of 0 (impossible) and 1 (certain)	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
[d] Use charts, tables and lists to organize all possible outcomes of an experiment	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
[e] Read and interpret graphs, tables and charts and make predictions based upon them	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	

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f Make line and circle graphs for data meaningful to students	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
g Use data gathering procedures which will aid in answering questions of interest (conducting polls, sampling schemes)	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
h Understand the relationship between size of sample and degree of certainty	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
i Identify misleading or incorrect methods of displaying or interpreting data	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
j Use computer software to generate graphs and tables	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
k Show the relationship among variables using tables, graphs, formulas and models	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
l Predict probable future outcomes or actions	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
m Determine, interpret and compare advantages and disadvantages of mean, median and mode	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	

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6.2 GENERATE AND TEST INTERPRETATIONS, EXPLANATIONS, PREDICTIONS, AND HYPOTHESES (ELS 6.2)							
[a] Interpret differences between two explanations	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
[b] Develop a hypothesis from observed data	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
[c] Gather data that confirms or negates a hypothesis	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	

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7.0 Mathematical Relationships. Students recognize and use number patterns, relationships, and logical thinking skills to make predictions and to solve problems.							
7.1 SORT AND CLASSIFY; USE LOGICAL THINKING (ELS 5.2)							
[a] Classify geometrical figures and sets of numbers	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
[b] Use evidence from verifiable sources to support own ideas and concepts in problem solving	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
[c] Select and use details, examples, illustrations, evidence and logic to problem solve	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
[d] Organize information or data using formats such as outlining, making maps, tables, charts, graphs; and computer spread sheets	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	

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7.2 COMPREHEND MEANINGS OF WRITTEN, ORAL AND VISUAL COMMUNICATIONS INVOLVING NUMBER PATTERNS AND RELATIONSHIPS (ELS 3.1)							
a Use equality and inequality concepts and symbols	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
b Relate new information to previous knowledge	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
c Draw logical conclusions from information presented	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
d Find numerical patterns and use to complete charts and tables	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
f Recognize direct and indirect cause and effect relationships	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
g Show using models such as 100-grids, number lines or a meter stick how percent can be expressed as a fraction or decimal, and conversely	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
h Interpret and use the concepts of ratio, percent proportion and commonly occurring rates such as growth, speed, and sports applications	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	

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End of Eighth Grade	Amount of Instruction	Included in Course Goals	Adequate Materials: Basal Text	Adequate Materials: Supplementary	Adequate Teacher Training		COMMENTS
7.3 RECOGNIZE, CONSTRUCT AND DRAW INFERENCES CONCERNING RELATIONSHIPS AMONG THINGS AND IDEAS (ELS 6.1)							
b Evaluate or make a table for two-variable formulas which have meaning to students and match a graph or table of values to its formula	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
c Describe the nature of change of each variable as suggested by a table of values, graph, or formula	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
7.4 REFLECT UPON AND IMPROVE OWN REASONING (ELS 6.6)							
a Describe the strengths and weaknesses of inductive and deductive reasoning	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	

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8.0 Oral and Written Communication Skills. Students use vocabulary, speech, numerals and other symbol systems essential for effective individual and group problem solving and for effective oral and written communication of mathematical concepts, problem-solving processes and results.							
STUDENTS WILL BE ABLE TO:							
8.1 RECOGNIZE AND USE MATHEMATICS VOCABULARY COMMONLY USED IN GRADE-LEVEL MATERIALS (ELS 1.1)							
b Use context clues in a selection to infer correct word(s)	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
c Distinguish affixes and root words	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
d Use basic mathematical terms and symbols to convey concepts of quantity, order, operation, and shape	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	

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8.2 DETERMINE MEANING OF UNKNOWN WORDS COMMONLY USED IN MATHEMATICAL MATERIALS (ELS 1.2)							
a Use context clues punctuation and syntax to infer meaning of unknown words and concepts	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
b Recognize double meanings of words	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
c Use knowledge of affixes and root words to determine word meanings	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
d Use dictionaries, glossaries and other reference materials to find word meanings	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
8.3 SPEAK WITH STANDARD PRONUNCIATION, APPROPRIATE VOLUME, RATE, GESTURES AND INFLECTIONS (ELS 1.3)							
b Pronounce words according to acceptable Standard English	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
c Make oral presentations that use verbal and non-verbal communication skills effectively	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	

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8.4 USE ORAL COMMUNICATION TO GIVE OR RECEIVE INFORMATION AND DIRECTIONS (ELS 2.3)							
[a] Paraphrase oral messages	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
[b] Give accurate oral directions	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
[c] Ask questions designed to clarify, gain assistance or local information	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
[d] Share ideas and information orally with others	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
[e] Provide accurate descriptive detail orally	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
[f] Take notes and prepare summaries based on oral presentations and group discussions	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
[g] Follow multistep oral instructions	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
8.5 DETERMINE THE SIGNIFICANCE AND ACCURACY OF INFORMATION AND IDEAS PRESENTED IN WRITTEN, ORAL, AURAL AND VISUAL COMMUNICATIONS (ELS 4.1)							
[a] Separate between relevant and irrelevant information used to draw conclusions	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	

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[b] Identify propaganda and other persuasion techniques (e.g., use and misuse of statistics)	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
8.6 USE ORAL COMMUNICATION TO INFLUENCE OTHERS AND TO RESPOND TO PERSUASION (ELS 4.2)							
[a] Provide logical answers based upon factual data	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
[b] Use multiple sources to verify information	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
8.7 LISTEN, READ, VIEW AND EVALUATE PRESENTATIONS OF MASS MEDIA (ELS 4.4)							
[a] Recognize persuasion techniques found in visual communications (e.g., use and misuse of graphs)	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
8.8 SELECT APPROPRIATE FORM OF WRITING (ELS 5.3)							
[a] Write in a variety of forms such as personal essays, journals, reports, descriptions, or in problem posing or solving	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	

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[b] Use writing appropriate to purpose such as to inform, pose problems or solve problems	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
8.9 PRESENT IDEAS IN UNDERSTANDABLE SEQUENCE ON THE TOPIC SELECTED (ELS 5.4)							
[a] Write complete sentences	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
[b] Write multiparagraph personal journals, reports or problem solution strategies	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
8.10 SELECT AND USE GUAGE, GESTURES AND SYMBOLS APPROPRIATE TO PURPOSE, TOPIC AND SETTING WHEN MAKING ORAL PRESENTATIONS (ELS 5.5)							
[a] Use a variety of techniques and figurative expressions to convey meaning	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
[b] Plan and make oral and visual presentations	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	

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8.11 EVALUATE AND REVISE OWN WRITING FOR MEANING, CLARITY, AND COMPREHENSIVENESS (REVISING AND REWRITING) (ELS 5.6)							
[a] Revise own writing to enhance clarity and meaning	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
[b] Use descriptive and connecting terms to enhance meaning, clarity and precision	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
8.12 APPLY THE CONVENTIONS OF WRITING TO PRODUCE EFFECTIVE COMMUNICATION (EDITING AND PROOFREADING) (ELS 5.7)							
[a] Edit for complete and correct sentences, punctuation and usage	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
[b] Spell correctly	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
[c] Produce legible final copy (manual or electronic processes)	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	

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9.0 Appropriate Study Skills. Students select and use appropriate study skills in order to accomplish mathematical learning tasks.							
STUDENTS WILL BE ABLE TO:							
9.1 IDENTIFY MAIN IDEAS, SUPPORTING DETAILS, AND FACTS AND OPINIONS PRESENTED IN WRITTEN, ORAL AND VISUAL FORMATS (ELS 2.1)							
[a] Locate facts in grade-level selections	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
[b] Identify necessary and extraneous facts and related supporting details	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
[c] Identify main idea in a problem situation	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
9.2 USE INSTRUCTIONAL MATERIALS AS BASIS FOR GAINING KNOWLEDGE AND IMPROVING COMPREHENSION (ELS 2.2)							
[a] Use table of contents, index, summaries, charts, graphs and illustrations to locate information needed	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	

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b Use organization of materials (summaries, headings and review questions)	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
c Use diacritical markings or respellings to pronounce words	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
9.3 CLARIFY PURPOSES OF ASSIGNMENT (ELS 7.1)							
a Determine general purpose of assignment and ask clarification on questions if necessary	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
b Determine ideas, concepts, generalities or principles <u>included</u> in assignment	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
9.4 USE RESOURCES BEYOND THE CLASSROOM (ELS 7.2)							
a Locate, check-out and return books and other circulating media materials	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
b Locate and use non-circulating reference materials	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	

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c Use library classification system and services to locate specialized resources required to complete assignments	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
d Use computer, e.g., data bases, spread sheets	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
9.5 SELECT AND USE APPROPRIATE STUDY TECHNIQUES (ELS 7.3)							
a Follow a study plan including: time management, appropriate study environment, processing of information	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
b Accomplish learning task using appropriate study techniques (preview and review chapters, read and reread text, ask clarifying questions, seek help when needed, use memory techniques, summarize, study with classmates, use self-questioning)	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
c Vary reading rate according to purpose for reading the selection	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
d Keep study materials, log and related notes organized and accessible	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	

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[e] Turn in assignments on time	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	
[f] Use appropriate test-taking techniques	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	

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